

## **Current Concepts in Transplantation: Combining Vascularized Composite Allografts with Intestinal Transplants**

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**Introduction:** Abdominal wall transplantation (AWTx) offered a potential solution to the often-challenging closure of the abdominal wall at the time of intestinal transplantation (ITx). However, besides facilitating closure, the AWTx has been proven a promising asset for early, patient led rejection monitoring. We have therefore used sentinel skin grafts (SSG) for solely graft monitoring purposes when there was no clinical need for AWTx.

**Methods:** We performed a retrospective analysis of all patients undergoing intestinal and vascularized composite allograft (VCA) transplantation (AWTx and SSG). Clinical presentation of rejection was correlated with histology, stoma output, citrulline levels and endoscopy findings.

**Results:** From October 2008 to December 2016, 34 patients underwent ITx in our institute. Ten underwent a modified multivisceral transplant and 24 an isolated small bowel transplant. Mean age was 41.9 years (range 23- 73). M/F: 20:14. Median follow up was 774 days (range 16- 3029). All patients had Campath induction (30 mg intravenously, 6 hours after reperfusion) followed initially by Tacrolimus monotherapy (trough level of 8-12 ng/ml). Twenty patients received a VCA in addition to ITx. There were 5 intestinal biopsy proven rejections in the IT alone group (36%) and a further 5 patients in the IT group were falsely treated for rejection, as this was later labelled as infection. There were 7 patients with rejection in the VCA part of the IT+ VCA group (7/20, 35%). These patients presented with a rash limited to the VCA. Of those 7 patients, there were 3 with concurrent intestinal rejection (3/20, 15%) with a lead-time of 5- 7 days between VCA and IT.

There have been no episodes of intestinal rejection without a preceding VCA rejection.

**Discussion:** We report on a series of combined VCA and ITx. The skin component has been utilized as a visual, dynamic canvas for remote immune monitoring of visceral grafts. It has so far been useful for patient led monitoring of the ITx graft since it is visible and presents the earliest and only sign of rejection.